

Montana Teen Driver Education and Training

Module 5.3

Protecting Occupants

*It's about managing natural laws
and saving lives.*

Protecting Occupants - Objectives

- Describe the three collisions of a crash and the effect on the restrained and unrestrained human body;
- Identify and describe locations and purpose of airbags, belt adjusters, and head restraints and demonstrate proper adjustments and operation to provide crash survival protection for adults;
- Identify how child restraint systems operate (infants, forward-facing, booster seats and lap shoulder devices), proper positioning within a vehicle and how they provide crash survival protection;
- Demonstrate proper steering wheel adjustments to accommodate potential airbag deployment.

Just like cars,
our bodies
obey natural
laws.



Land Transport NZ and NZ Police
New Zealand Government

You can't beat physics. Slow Down.

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Student Activity 1

- Work in discussion groups of 2 or 3
- Identify how cars are designed to protect occupants—*What features do they have to manage forces in the event of a crash?*
- Make a list and share it with the class

Three Collisions in Every Crash

1. The vehicle
2. The body
3. The internal organs

The First Collision: Vehicle Crash

- Sudden deceleration
- Short duration- 0.1 seconds
- Vehicle crumples to absorb energy of crash



The Second Collision: Occupant Striking Objects

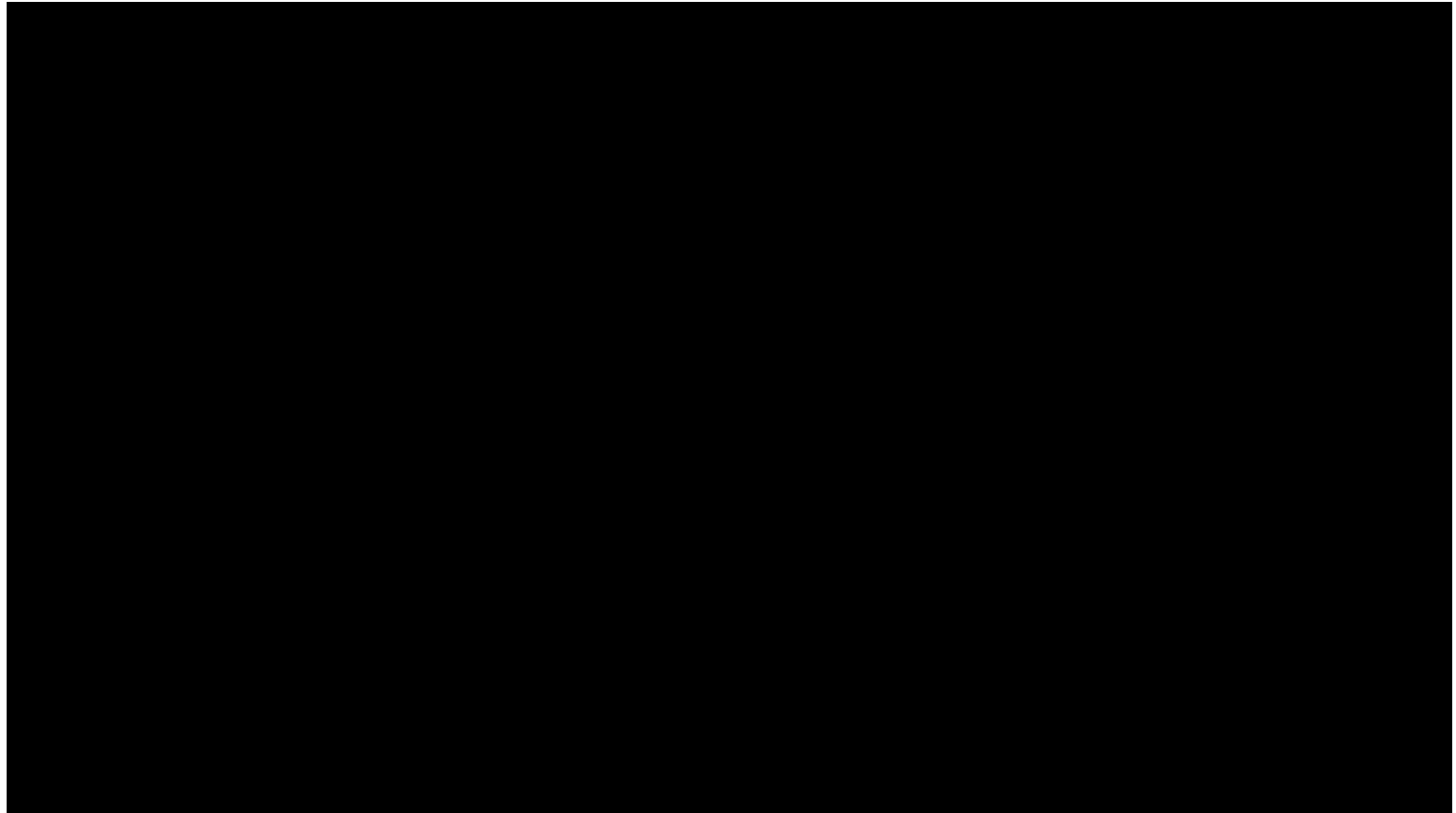
The passenger's body strikes an object:



Click image to start video.

Restrained vs. Unrestrained

What's your choice?



DID YOU KNOW?

- Passengers are **four times more likely** to be killed in a crash when thrown from a vehicle
- The crash force **can throw a person 150 - 200 feet** onto the road or into a fixed object.

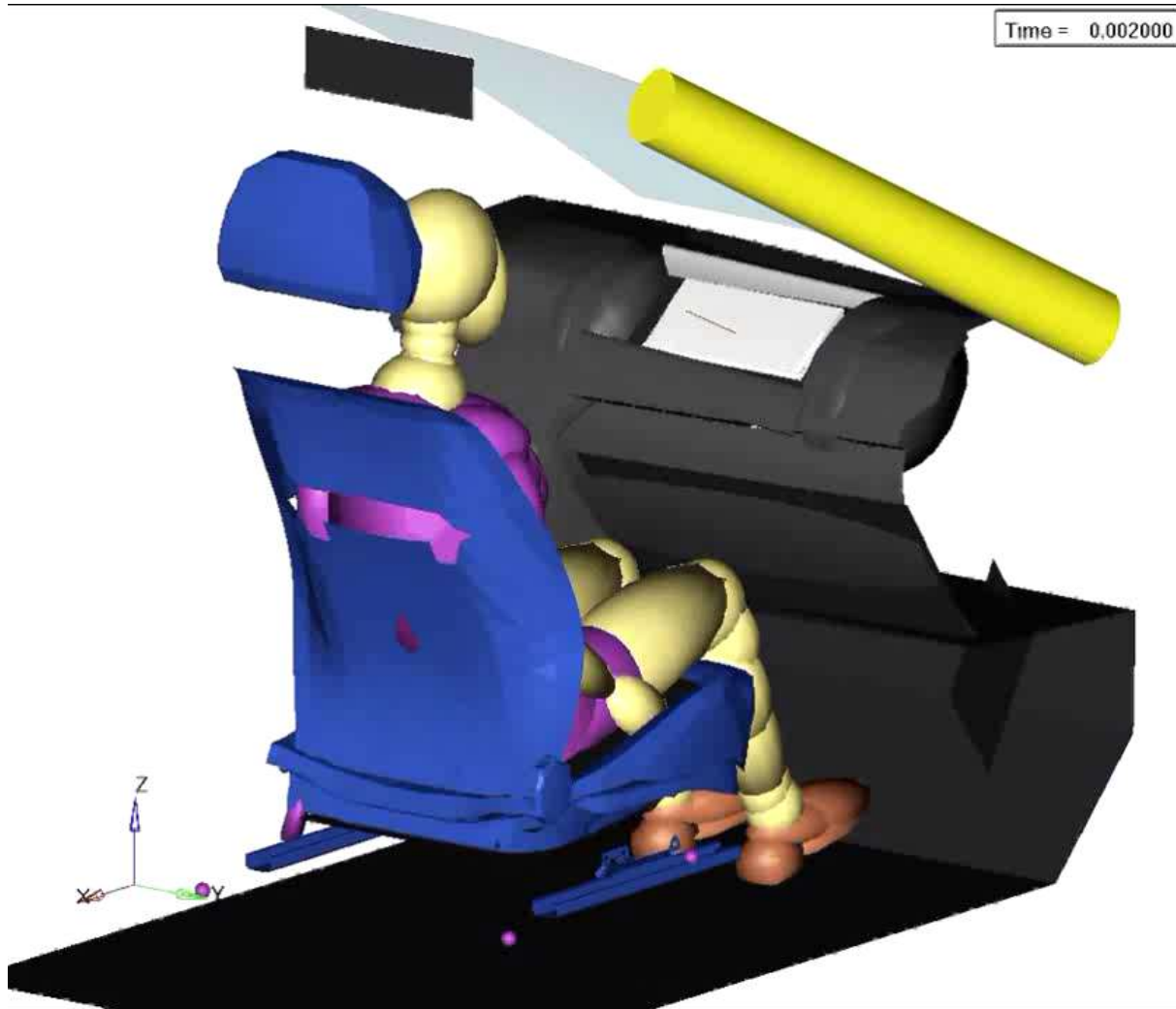


Stay Alive—Stay Tied to Your Ride

What about Airbags?



What about Airbags and No Belt



Click image to start video.

The Third Collision: Internal Organs

- Internal organs move toward point of impact.
- They strike other organs, bones, and the skull.



Click image to start video.

Everyone Needs to Buckle Up



Know your Child Safety Restraint Systems



Excuses Really?

I'm only going a short distance and not driving fast.



Excuses Really?

***Why is the government telling me what to do?
It's nobody's business but my own.***

If the person is never hurt in a crash, this excuse works well. Statistics show that unbelted occupants have more severe injuries, longer hospital stays, and more debilitating injuries.

Crash injuries raise the cost of health care for everyone through increased insurance premiums, more tax dollars to fund Medicare, and jeopardize individuals' own financial security. The decision whether or not to buckle up **can impact others' lives.**

Excuses Really?

- ***Seat belts are uncomfortable.***
- ***I'm a good driver.***
- ***I'm not in the habit of wearing them.***
- ***I'm afraid of being trapped in a fire or under water.***

How would you respond to these excuses?

Student Activity 2

With your new understanding of Natural Laws and Seat Belts ...

- Work in groups of 3-4 students.
- Choose two excuses you have heard.
- Identify why their logic is flawed *based on your knowledge of natural laws*. Predict what the consequences of their decision might be.

Seat Belt Initiatives in Montana

- Current Usage—76.9% all roads
- Goal 2015—Increase usage to 89.3%
- How?
 - Move law from a secondary offense to primary offense
 - Targeted enforcement
 - Education—Plan2Live <http://plan2live.mt.gov/> and Buckle Up Montana <http://buckleup.mt.gov/>

Everyone, *Every* time, *Every* drive



Now It's Your Turn

Historically, safety belt usage by teens is lower than adults. **Let's change that.**

- Create a message for your school that encourages drivers to make sure everyone is safely buckled before the car moves.
- Create a public service announcement video that you can post on social media sites to encourage seat belt use by other teens.
- Conduct seat belt surveys at your school and in your community to raise awareness.



Montana Driver Education and Training

Standards and Benchmarks

1. Laws and Highway System

- 1.1. know the laws outlined in the Montana Driver's manual;
- 1.2. understand the laws outlined in the Montana Driver's Manual; and
- 1.3. consistently demonstrate knowledge and understanding by responsible adherence to highway transportation system traffic laws and control devices.

2. Responsibility

- 2.1. recognize the importance of making safe and responsible decisions for owning and operating a motor vehicle;
- 2.2. demonstrate the ability to make appropriate decisions while operating a motor vehicle;
- 2.3. consistently display respect for other users of the highway transportation system; and
- 2.4. develop positive habits and attitudes for responsible driving.

3. Visual Skills

- 3.1. know proper visual skills for operating a motor vehicle;
- 3.2. communicate and explain proper visual skills for operating a motor vehicle;
- 3.3. demonstrate the use of proper visual skills for operating a motor vehicle; and
- 3.4. develop habits and attitudes with regard to proper visual skills.

4. Vehicle Control

- 4.1. demonstrate smooth, safe and efficient operation of a motor vehicle; and
- 4.2. develop positive habits and attitudes relative to safe, efficient and smooth vehicle operation.

(continued on next slide)

Montana Driver Education and Training

Standards and Benchmarks

5. Communication

- 5.1. consistently communicate driving intentions (i.e., use of lights, vehicle position, and personal signals);
- 5.2. adjust driver behavior based on observation of the highway transportation system and other roadway users;
- 5.3. adjust communication (i.e., use of lights, vehicle position, and personal signals) based on observation of the highway transportation system and other users; and
- 5.4. develop positive habits and attitudes for effective communication.

6. Risk Management

- 6.1. understand driver risk-management principles;
- 6.2. demonstrate driver risk-management strategies; and
- 6.3. develop positive habits and attitudes for effective driver risk-management.

7. Lifelong Learning

- 7.1. identify and use a range of learning strategies required to acquire or retain knowledge, positive driving habits, and driving skills for lifelong learning;
- 7.2. establish learning goals that are based on an understanding of one's own current and future learning needs; and
- 7.3. demonstrate knowledge and ability to make informed decisions required for positive driving habits, effective performance, and adaptation to change.

8. Driving Experience

- 8.1. acquire at least the minimum number of BTW hours over at least the minimum number of days, as required by law, with a Montana-approved driver education teacher; and
- 8.2. acquire additional behind-the-wheel driving experience with a parent or guardian's assistance in a variety of driving situations (i.e., night, adverse weather, gravel road, etc.).